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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/920,687	08/02/2001	Douglas P. Mortenson	A11-17394US	5763

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EXAMINER

TURNER, SAMUEL A

ART UNIT	PAPER NUMBER
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2877

DATE MAILED: 12/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/920,687

Applicant(s)

MORTENSON, DOUGLAS P.

Examiner

Samuel A. Turner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,7-10,13 and 15-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 7-10, 13, and 15-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 3, 7-10, 13, and 15-20 are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification never refers to any “birefringent pattern” as claimed in claims 1, 7, and 13. What is this “birefringent pattern” and how is this pattern formed in the ring laser gyro ?

In the specification two different masks are disclosed: first is a readout detector mask which takes the form of a grid pattern and is used to block part of the interference fringes formed by the ring laser gyro, the second is an LIM detector mask which blocks all but the desired intensity mode, in this case the TEM₀₀ mode. Nowhere in the specification is a mask, which is a spatial filter, disclosed which excludes certain wavelengths, normally done by a spectral filter.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 3, 7-10, 13, and 15-20 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 7, and 13 refer to a birefringent pattern. In a ring laser gyro an interference pattern is formed on the split detectors, thus a reference to a birefringent pattern is confusing.

Claim 13 is confusing in that it refers to wavelengths and not modes or fringe patterns.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

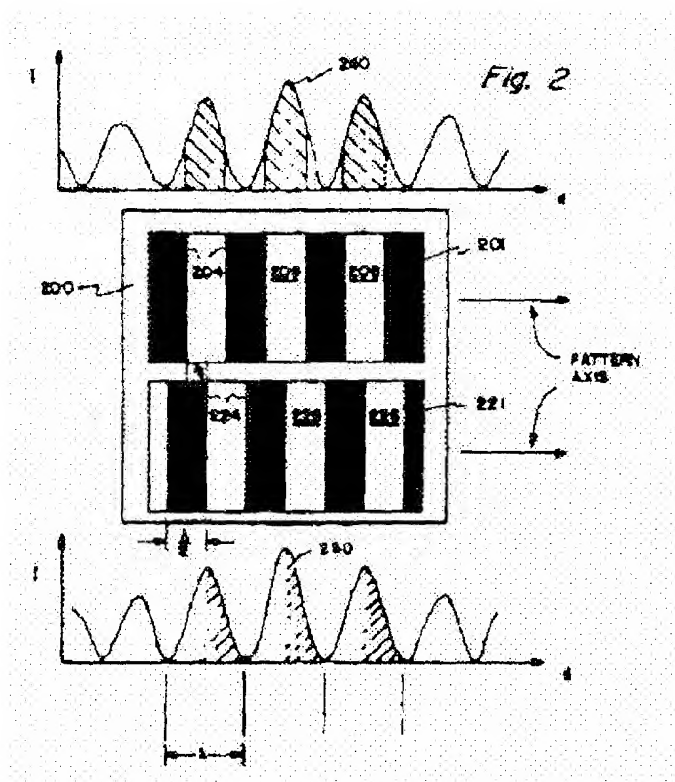
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 7-9, 13, and 15-20 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Killpatrick(EP 0201853).

Killpatrick teaches a readout dual photodetector for the output of a ring laser gyro comprising two spatially separated photodetectors(200,221) each photodetector is masked with a periodic pattern formed integral to the photodetector meeting the limitations of claims 1, 7, and 13. It has been held that the term "integral" is

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sufficiently broad to embrace constructions united by such means as fastening and welding. *In re Hotte*, 177 USPQ 326, 328 (CCPA 1973). The two different masks are periodic parallel bars (204, 224), the width of the bars is at one half the fringe spacing, and the bars are out of phase with each other, the figure shows $\lambda/4$ however the teaching includes $\lambda/2$ meeting the limitations of claims 3, 8, 9, and 15-20.



Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at

the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 10 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Killpatrick(EP 0201853).

Killpatrick teaches that the mask can be manufactured by a variety of techniques by using a material which permits only the unmasked areas of the detector to be responsive to the interference fringes, however a blue chrome material is not disclosed.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use any material which meets the teaching of Killpatrick which is a material which permits only the unmasked areas of the detector to be responsive to the interference fringes. Clearly chrome was, at the time of invention, an opaque material which would have blocked the light from the interference fringes.

Response to Arguments

Applicant's arguments filed 7 August 2003 have been fully considered but they are not persuasive.

The problem is applicant's use of the term birefringent pattern. There is no anisotropic substance in the gyro to create and birefringent effect or produce a birefringent effect of any kind. The coherent summation of two light beams generates an interference pattern and not a birefringent pattern. See the

Killpatrick reference. Applicant has clearly used the incorrect term and correction is required.

As to applicant's argument that there are over 1900 patents that have birefringent and pattern and 8 that use birefringent pattern is in error. There is no evidence that the prior art or the skilled artisan has ever used the term birefringent pattern in the manner of applicant.

As to applicant's argument that Killpatrick does not define the pitch of the mask, figure 2 clearly shows the relationship between the interference pattern and the mask. The spacing of the mask pattern corresponds to the pitch of the interference pattern.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel A. Turner whose telephone number is **703-308-4803**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font, can be reached on **703-308-4881**. The fax phone number for the organization where this application or proceeding is assigned is **703-872-9306**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is **703-308-0956**.

Any other inquiry of a technical nature, and all inquiries of a general nature including those relating to the status of this application or any patent term adjustment should be directed to TC2800 Customer Service Office whose telephone number is **703-306-3329**.

A handwritten signature in black ink, appearing to read 'Samuel A. Turner', with a stylized flourish extending to the right.

Samuel A. Turner
Primary Examiner
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